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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,295	12/21/2001	Shigeki Yagi	11106/7	4022

7590

01/16/2003

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Chicago, IL 60610

EXAMINER
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KIKNADZE, IRAKLI

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/032,295

Applicant(s)

YAGI, SHIGEKI

Examiner

Irakli Kiknadze

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Aldenhovel (US Patent 4,125,773).

With respect to claim 1, Aldenhovel discloses a method of protecting an x-ray analyzer comprising (see abstract): applying a high voltage to a x-ray tube; obtaining discharge phenomenon that occurs in an x-ray generating system and counting a pulse number of a pulse array; and terminating the high voltage output to the x-ray tube when the pulse number reaches a predetermined value (see Fig; column 3; lines 17-28 and column 4; lines 9 –23).

With respect to claim 3, Aldenhovel discloses An electric discharge detection circuit comprising (see abstract and Fig.): an X-ray tube; a power supply (9) to generate a high voltage applied to the x-ray tube; an x-ray tube voltage detector (X) to detect the high voltage applied to the x-ray tube; a circuit to discriminate between substantial changes in a signal output from the x-ray tube voltage detector (X) within a

predetermined time period; an x-ray cut-off circuit to terminate generation of the high voltage by the power supply when the number of substantial changes in the signal output from the x-ray tube voltage detector (X) within the predetermined time period exceeds a preset amount; and a display to display the preset amount has been exceeded (column 1; lines 28 –60).

***Allowable Subject Matter***

3. Claim 2 is allowed.

4. The following is a statement of reasons for the indication of allowable subject matter: With respect to claim 2 prior art fails to disclose or make obvious an electric discharge detection circuit comprising: a zero-crossing comparator to discriminate a polarity of an output signal from a differentiation circuit to differentiate a signal output from the x-ray tube voltage detector; a re-triggerable one-shot pulse generating circuit that generates a one-shot pulse at a fixed period, a pulse output from the zero-crossing comparator being a trigger of the one-shot pulse generating circuit; a counter, having a one-shot pulse output from the one-shot pulse generating circuit input as a operation enable signal, to count pulses output from the zero-crossing comparator during a period when operation is enabled; an x-ray cut-off circuit to transmit a command signal to the power supply to stop generation of high voltage when receiving a carry output from the counter.

**Conclusion**


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Amtmann (US Patent 4,234,793); Le Guen (US Patent 5,008,916) and Shimoyanagida (US Patent 5,561,578) disclose the X-ray tube overload circuits.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is (703) 305-6464. The examiner can normally be reached on M-F(8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Irakli Kiknadze  
January 10, 2003

  
ROBERT H. KIM  
SUPERVISOR, PATENT EXAMINER  
TECHNICAL CENTER 2800